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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/323,034	06/01/1999	KAZUNORI IWAMOTO	684.2846	8757

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EXAMINER

LYONS, MICHAEL A

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/323,034

Applicant(s)

IWAMOTO ET AL.

Examiner

Michael A. Lyons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, claims 21-26 and 30-32 in the paper filed October 27, 2003 is acknowledged. The traversal is on the ground(s) that the various embodiments are so closely related as to not require separate fields of search. This is found persuasive because the examiner agrees with the applicant in that the embodiments only differ from the location of the alignment scope. Therefore, the restriction is withdrawn, and all claims are still pending and under consideration.

Claim Objections

Claim 23 is objected to because of the following informalities: in line 4 of the claim, the Y interferometer is said to use a light beam reflected off an X reflection surface, while the drawings and a similar claim (claim 28) have the Y interferometer using light reflected off a Y reflection surface. Appropriate correction is required.

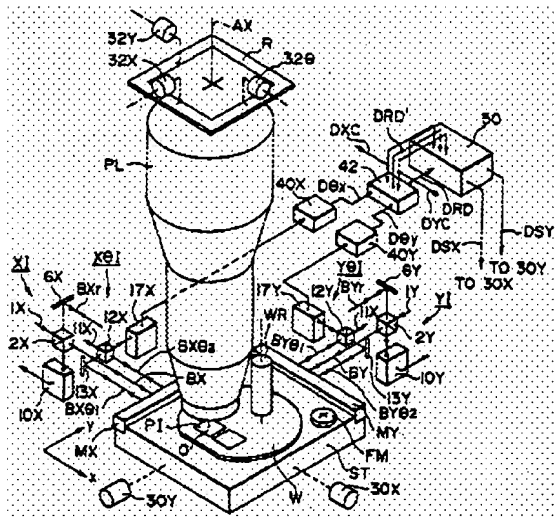
Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21-33 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tanimoto et al (5,151,749).



Regarding claim 21, Tanimoto (Fig. 1) discloses a stage ST moveable in the X and Y directions, an alignment scope WR disposed vertically above the wafer, spaced from the exposure apparatus in the Y direction, and parallel to the Y axis due to its vertical disposition, an X measuring device in the form of interferometer XI, a Y measuring device in the form of interferometer YI, and a controller 50. As for the “operable to” language regarding the controller, it has been held that the recitation that an element is “operable to” perform a function is not a positive limitation, but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

Regarding claim 30, since the apparatus described above contains the same features as the claimed apparatus, the claimed method can be applied to the above apparatus for the purpose of obtaining the desired results of the claimed method.

Regarding claim 27, Tanimoto (Fig. 1) discloses a stage ST moveable in the X and Y directions, an alignment scope WR disposed vertically above the wafer, spaced from the exposure apparatus in the X direction, and parallel to the X axis due to its vertical disposition, a Y measuring device comprising an interferometer YI and a yaw interferometer YOI, and a controller 50. As for the “operable to” language regarding the controller, it has been held that the recitation that an element is “operable to” perform a

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function is not a positive limitation, but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

Regarding claim 33, since the apparatus described above contains the same features as the claimed apparatus, the claimed method can be applied to the above apparatus for the purpose of obtaining the desired results of the claimed method.

As for claim 22, Tanimoto's X measuring device includes an X interferometer XI and an X yaw interferometer X θ I, and the Y measuring device includes a Y interferometer YI and a Y yaw interferometer Y θ I.

As for claims 23 and 29, the X interferometers use light reflecting from mirror MX, while the Y interferometers use light reflecting from mirror MY.

As for claims 24-26 and 31-32, controller 50 controls the operation of the device and performs necessary calculations to generate desired results from the alignment operation. As for the "operable to" language regarding the controller, it has been held that the recitation that an element is "operable to" perform a function is not a positive limitation, but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

As for claim 28, Tanimoto's X measuring device includes an X interferometer XI and an X yaw interferometer X θ I.

Response to Arguments

Applicant's arguments, see the amendment filed April 2, 2003, with respect to the rejection(s) of claim(s) 21-33 under Makinouchi and Yamane et al have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the new art as disclosed above.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
US Pat. 6,097,495, an aligning method to Uzawa et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 571-272-2420. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MAL
April 1, 2004



Samuel A. Turner
Primary Examiner